

ABSTRACT

The present invention provides an apparatus that can estimate the charge/discharge electricity amount without being affected by current measurement error. If specific selection conditions are met, a no-load voltage calculation part (105) takes a plurality of pairs of data consisting of current data $I(n)$ and voltage data $V(n)$ corresponding to the current data and calculates a no-load voltage V_{sep} as the voltage intercept at a current of zero in a straight-line approximation obtained by statistical processing such as regression analysis using a least squares method with respect to the plurality of pairs of data. In addition, if specific current conditions continue to be met for a certain amount of time, an open circuit voltage calculation part (106) calculates the terminal voltage of the secondary battery as the open circuit voltage V_{oc} . An estimated charge/discharge electricity amount calculation part (114) uses a preset change-in-voltage adjustment constant ΔV_{bd} , adjustment coefficient K_b , change-in-electromotive-force constant K_{eq} and polarization voltage generation constant K_{pol} to calculate the estimated charge/discharge electricity amount ΔQ_e as a function of the change ΔV_b in the no-load voltage or the open circuit voltage over a predetermined period of time.